

## CLAIMS

- 1 1. A computer-based method for duplicating, onto one or more selected target computers, a software system installed on a source computer the method comprising:
  - 3 retrieving an image of the source computer, the image containing at least hardware configuration information of the source computer, disk partitioning information of the source computer, a list of files installed on the source computer and operating-system-specific information of the source computer;
  - 7 transmitting the image from the source computer to an installation engine;
  - 8 recreating at the installation engine in an imaging area the software system of the source computer system based on information in the image; and
  - 10 installing the recreated software system on the selected target computer systems.
- 1 2. A computer readable medium having computer executable instructions for performing the method recited in claim 1.
- 1 3. The method of claim 1 wherein the list of files identifies at least for each file:
  - 2 the full file name of the file; and
  - 3 file attribute information associated with the file.
- 1 4. The method of claim 1 wherein the step of retrieving an image of the source computer further comprises retrieving the image from a database.
- 1 5. The method of claim 1 further comprising the step of reporting the status of the each target computer's installation of the recreated software system.
- 1 6. The method of claim 1 further comprising the step of determining hardware compatibility of the target computer with the source computer by comparing at the installa-

3      tion engine the hardware configuration information identified in the image to the hard-  
4      ware configuration of the target machine.

1      7.      The method of claim 1 wherein the image is transmitted to the installation engine  
2      in a compressed and encrypted form.

1      8.      The method of claim 1 wherein the step of recreating of the software system of  
2      the source computer further comprises:

3              initializing the imaging area based on the disk partition information;  
4              for each file listed in the list of files, acquiring a copy of the file and writing the  
5              copy of the file to the imaging area; and  
6              copying operating-system-specific information of the source computer to the im-  
7              aging area.

1      9.      The method of claim 8 wherein the step of acquiring a copy of the file further  
2      comprises:

3              if the file exists on the storage subsystem of the installation engine, retrieving the  
4              file from the storage subsystem at the installation engine; and  
5              if the file does not exist on the storage subsystem of the installation engine re-  
6              questing a copy of the file from the packaging engine.

1      10.     The method of claim 1 wherein the step of installing the recreated software sys-  
2      tem on the selected target computer systems for each target computer further comprises:

3              at the installation engine, creating script files and storing the script files on the  
4              installation engine's storage system;  
5              creating a communications connection between the installation engine and a thin-  
6              kernel on the target computer;  
7              at the installation engine, sending a message to the thin-kernel the message con-  
8              taining storage subsystem initialization information;  
9              at the target computer, initializing the local storage subsystem of the target com-  
10          puter based on the storage subsystem initialization information; and

11 at the target computer, copying the script files and the files of the imaging area to  
12 the local storage subsystem on the target computer.

1 11. The method of claim 10 wherein the step of copying script files and the files of  
2 the imaging area to the local storage subsystem on the target computer further comprises:  
3 compressing and archiving the script files and the imaging area into a file at the  
4 installation engine;  
5 transferring the file from the installation engine to the target computer; and  
6 decompressing and unarchiving the file at the target computer.

1 12. The method of claim 10 wherein the subsystem initialization information identi-  
2 fies at least:  
3 the number of disk partitions;  
4 the name of each disk partition; and  
5 the size of each disk partition.

1 13. The method of claim 10 wherein the message further identifies the location of the  
2 imaging area and the script files.

1 14. The method of claim 13 wherein the step of copying the files of the imaging area  
2 to the local storage subsystem on the target computer further comprises:  
3 using the identity of the location of the imaging area, remotely mounting the file  
4 systems where the imaging area and script files reside; and  
5 copying the script files and the files from the imaging area to the local storage  
6 subsystem on the target computer.

1 15. The method of claim 10 wherein the step of creating the script files further com-  
2 prises:  
3 examining the imaging area to determine the software to be configured;  
4 reading details of the target computer system from a database; and

5 creating the script file based on the software to be configured and the details of  
6 the target computer system.

1 16. The method of claim 10 wherein the step of creating the script files further com-  
2 prises:

3 a user logging into the installation engine's intelligent installation server;  
4 the user specifying the contents of the script file; and  
5 creating the script file based on the contents.

1 17. The method of claim 10 wherein the step of creating the script files further com-  
2 prises:

3 a user specifying the contents of the script file and placing the contents of the file  
4 on a remote system;  
5 the user logging into the installation engine's intelligent installation server and  
6 specifying the location of the file on the remote system; and  
7 creating the script file by copying the file on the remote system to the installation  
8 engine's storage subsystem.

1 18. The method of claim 10 further comprising after the step of copying the script  
2 files:

3 at the target computer, rebooting the target computer; and  
4 at the target computer, sending a message to the installation engine.

1 19. A computer-based system for duplicating a software system installed on a source  
2 computer onto a plurality of target computers comprising:  
3 a deployment console;  
4 an imaging and packaging server;  
5 a source computer system;  
6 an intelligent installation server;  
7 a plurality of target computers;

8           a communications connection between the deployment console and the imaging  
9 and packaging server;  
10           a communications between the imaging and packaging server and the source  
11 computer system;  
12           a communications connection between the imaging and packaging server and the  
13 intelligent installation server;  
14           a communications connection between the intelligent installation server and the  
15 plurality of target computers;  
16           a means for selecting the source computer system from a plurality of source com-  
17 puter systems at the deployment console;  
18           a means for creating and storing an image of a software system installed on the  
19 selected source computer at the imaging and packing server;  
20           a means for transmitting the image from the imaging and packaging server to the  
21 intelligent installation server;  
22           a means for selecting the plurality of target systems at the deployment console;  
23           a means for recreating the software system of the source computer from informa-  
24 tion provided by the image at the intelligent installation server; and  
25           a means for installing the recreated image on the selected plurality of target com-  
26 puter systems.

1       20.    A computer-based method for creating an image of a first computer and saving  
2 the image on a second computer system the method comprising:  
3           at the first computer, creating an image of the first computer, the image identify-  
4 ing at least the hardware configuration of the first computer, a list of files installed on the  
5 first computer and operating-system-specific information of the first computer;  
6           sending the image to the second computer; and  
7           at the second computer, storing the image in a database that is accessible by the  
8 second computer.

1       21.    A computer readable medium having computer executable instructions for per-  
2 forming the method recited in claim 20.

1 22. The method of claim 20 wherein the list of files identifies at least for each file:  
2 the full name of the file; and  
3 file attribute information associated with the file.

1 23. The method of claim 20 further comprising the step of selecting the first computer  
2 system from a plurality of computer systems.

1 24. A computer-based method for recreating the software system of a source com-  
2 puter onto an installation engine the method comprising:  
3 retrieving an image of the source computer from a database, the image containing  
4 a list of files that are installed on the source computer and disk partitioning information  
5 of the source computer;  
6 initializing an imaging area located on the installation engine's storage subsystem  
7 using the disk partitioning information;  
8 acquiring a copy of each file that is listed in the list of files; and  
9 storing the retrieved files in the imaging area.

1 25. A computer readable medium having computer executable instructions for per-  
2 forming the method recited in claim 24.

1 26. The method of claim 24 wherein the list of files identifies at least for each file:  
2 the full file name of the file; and  
3 file attribute information associated with the file.

1 27. The method of claim 24 wherein the step of acquiring a copy of each file further  
2 comprises:  
3 if the file exists on the storage subsystem of the installation engine, retrieving the  
4 file from the storage subsystem at the installation engine; and  
5 if the file does not exist on the storage subsystem of the installation engine re-  
6 questing a copy of the file from the packaging engine.